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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,786	11/30/2001	Atsushi Ishikawa	018656-263	4572

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EXAMINER	
BAKER, CHARLOTTE M	
ART UNIT	**PAPER NUMBER**
2625	

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,786	ISHIKAWA, ATSUSHI	
	Examiner	Art Unit	
	Charlotte M. Baker	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DOUGLAS Q. TRAN
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being anticipated by Kojima (5,454,052).

Regarding claim 1: Kojima discloses a dot characteristic point extracting device that extracts dot characteristic points from the M-level image data (Fig. 1a, line memories 11-14); a dot area identifying device (Fig. 1a, feature extraction 8) that determines whether a target pixel belongs to a dot area based on the results of the extraction carried out by the dot characteristic point extracting device (Fig. 1a, line memories 11-14) (col. 9, ln. 12 through col. 10, ln. 14); based on the results of the determination carried out by the dot area identifying device (Fig. 1a, feature extraction 8).

Kojima fails to specifically address N-level conversion and parameter setting unit in the first embodiment, but addresses the elements in the second embodiment.

Kojima discloses in the second embodiment an N-level conversion unit (Fig. 6, N-value converter 64) that converts the M-level image data into N-level image data (M > N) (col. 11, ln. 17-19); and a parameter setting unit (Fig. 6, error suppresser 110 and N-value converter 64) that sets the N-level conversion parameters used by the N-level conversion unit (Fig. 6, N-value converter 64) (col. 10, ln. 59 through col. 11, ln. 19).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include N-level conversion and parameter setting unit with the first embodiment in order to convert halftone images.

Regarding claim 2: Kojima satisfies all the elements of claim 1. Kojima further discloses an area identifying device (Fig. 6, mixer 7) that determines whether the target pixel belongs to a character area or a photograph area (col. 10, ln. 5-18); based on the results of the determination carried out by the area identifying device (Fig. 6, mixer 7) and the results of the determination carried out by the dot area identifying device (Fig. 1a, feature extraction 8).

Kojima fails to specifically address N-level conversion and parameter setting unit in the first embodiment, but addresses the elements in the second embodiment.

Kojima discloses in the second embodiment wherein the parameter setting unit (Fig. 6, error suppresser 110 and N-value converter 64) specifies N-level conversion parameters in the N-level conversion unit (Fig. 6, N-value converter 64) (col. 10, ln. 59 through col. 11, ln. 19).

Regarding claim 3: Kojima satisfies all the elements of claim 2. Kojima further discloses wherein said area identifying device (Fig. 6, mixer 7) determines whether the target pixel

belongs to a character area or a photograph area based on the difference between the largest density value and the smallest density value in the area of a certain size including the target pixel (col. 9, ln. 11 through col. 10, ln. 18).

Regarding claim 4: Kojima satisfies all the elements of claim 1.

Kojima fails to specifically address N-level conversion in the first embodiment, but addresses the elements in the second embodiment.

Kojima further discloses wherein said N-level conversion unit (Fig. 6, N-value converter 64) performs N-level conversion of M-level image data using the error diffusion method (see Abstract and col. 11, ln. 17-19).

Regarding claim 5: Kojima satisfies all the elements of claim 4.

Kojima fails to specifically address N-level conversion and parameter setting unit in the first embodiment, but addresses the elements in the second embodiment.

Kojima discloses in the second embodiment wherein the N-level conversion parameters set by the parameter setting unit (Fig. 6, error suppresser 110 and N-value converter 64) include an N-level error gain adjustment value (col. 10, ln. 59 through col. 11, ln. 19).

Regarding claim 6: Kojima satisfies all the elements of claim 4.

Kojima fails to specifically address N-level conversion and parameter setting unit in the first embodiment, but addresses the elements in the second embodiment.

Kojima discloses in the second embodiment wherein the N-level conversion parameters set by the parameter setting unit (Fig. 6, error suppresser 110 and N-value converter 64) include an N-level conversion reference value (col. 10, ln. 59 through col. 11, ln. 19).

Regarding claim 7: Kojima satisfies all the elements of claim 1.

Kojima discloses wherein said dot characteristic point extracting device (Fig. 1a, line memories 11-14) extracts as dot characteristic points isolated points having a density difference of a specified minimum value from their surrounding pixels (Fig. 2 and col. 4, ln. 21-53), and said dot area identifying device (Fig. 1a, feature extraction 8) identifies a dot area by comparing with a specified threshold value the number of isolated points existing in an area of a specified size that includes the target pixel (col. 5, ln. 9-44).

Regarding claim 8: The structural elements of apparatus claim 1 perform all of the steps of method claim 8. Thus, claim 8 is rejected for the same reasons discussed in the rejection of claim 1.

Regarding claim 9: Kojima satisfies all the elements of claim 8. The structural elements of apparatus claim 2 perform all of the steps of method claim 9. Thus, claim 9 is rejected for the same reasons discussed in the rejection of claim 2.

Regarding claim 10: Kojima satisfies all the elements of claim 9. The structural elements of apparatus claim 4 perform all of the steps of method claim 10. Thus, claim 10 is rejected for the same reasons discussed in the rejection of claim 4.

Regarding claim 11: Kojima satisfies all the elements of claim 10. The structural elements of apparatus claim 5 perform all of the steps of method claim 11. Thus, claim 11 is rejected for the same reasons discussed in the rejection of claim 5.

Regarding claim 12: Kojima satisfies all the elements of claim 10. The structural elements of apparatus claim 6 perform all of the steps of method claim 12. Thus, claim 12 is rejected for the same reasons discussed in the rejection of claim 6.

Regarding claim 13: Arguments analogous to those stated in the rejection of claim 1 are applicable. In addition, Kojima discloses input unit that inputs M-level image data (M-valued original image, see Abstract); an output unit that outputs an image based on the N-level image data (N-valued image data, see Abstract).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamagata et al. (6,714,676).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M. Baker whose telephone number is 571-272-7459. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on 571-272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB

DOUGLAS Q. TRAN
PRIMARY EXAMINER